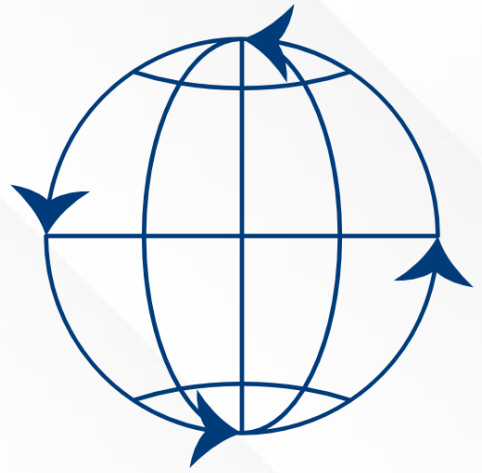




Opensource ICT Solutions

Reinventing the Zabbix Frontend



Opensource ICT Solutions

Whoami



Patrik Uytterhoeven

Zabbix trainer / Consultant



Opensource ICT Solutions

Your Zabbix partner in:

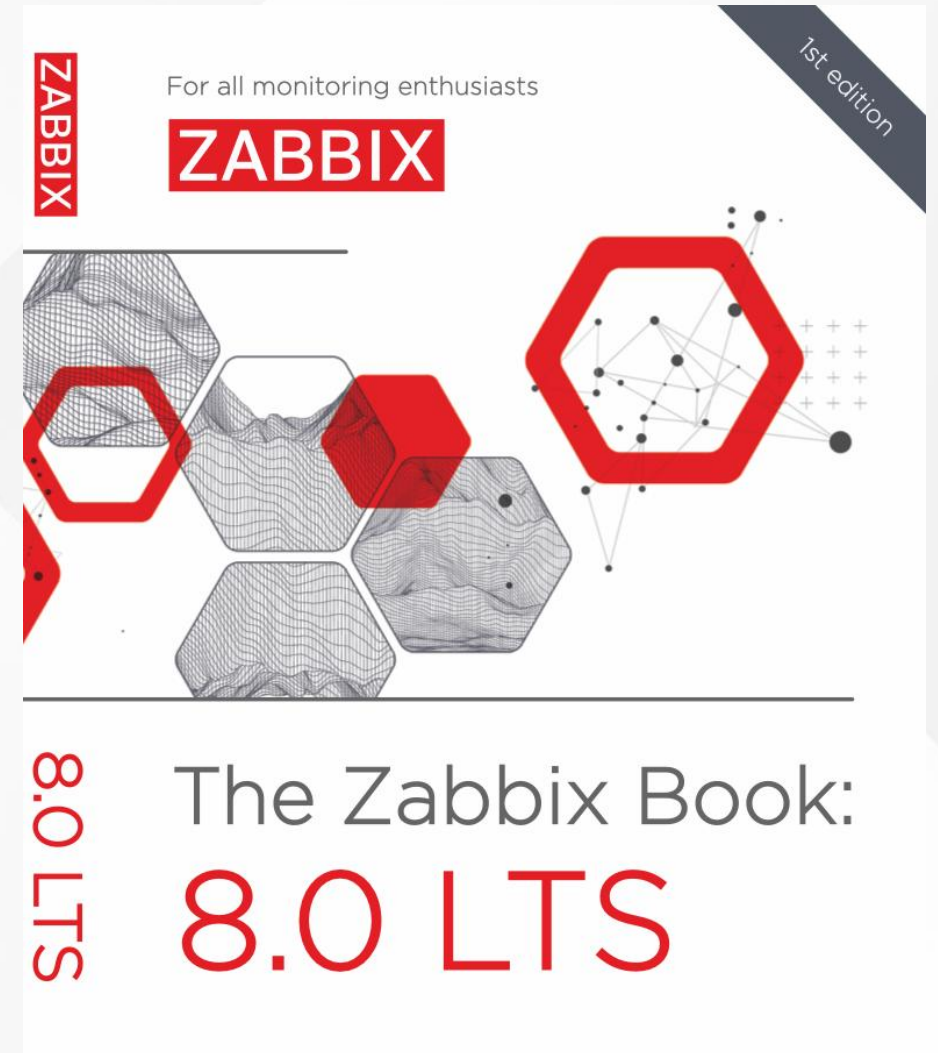
- The Netherlands
- Belgium
- United Kingdom
- United States



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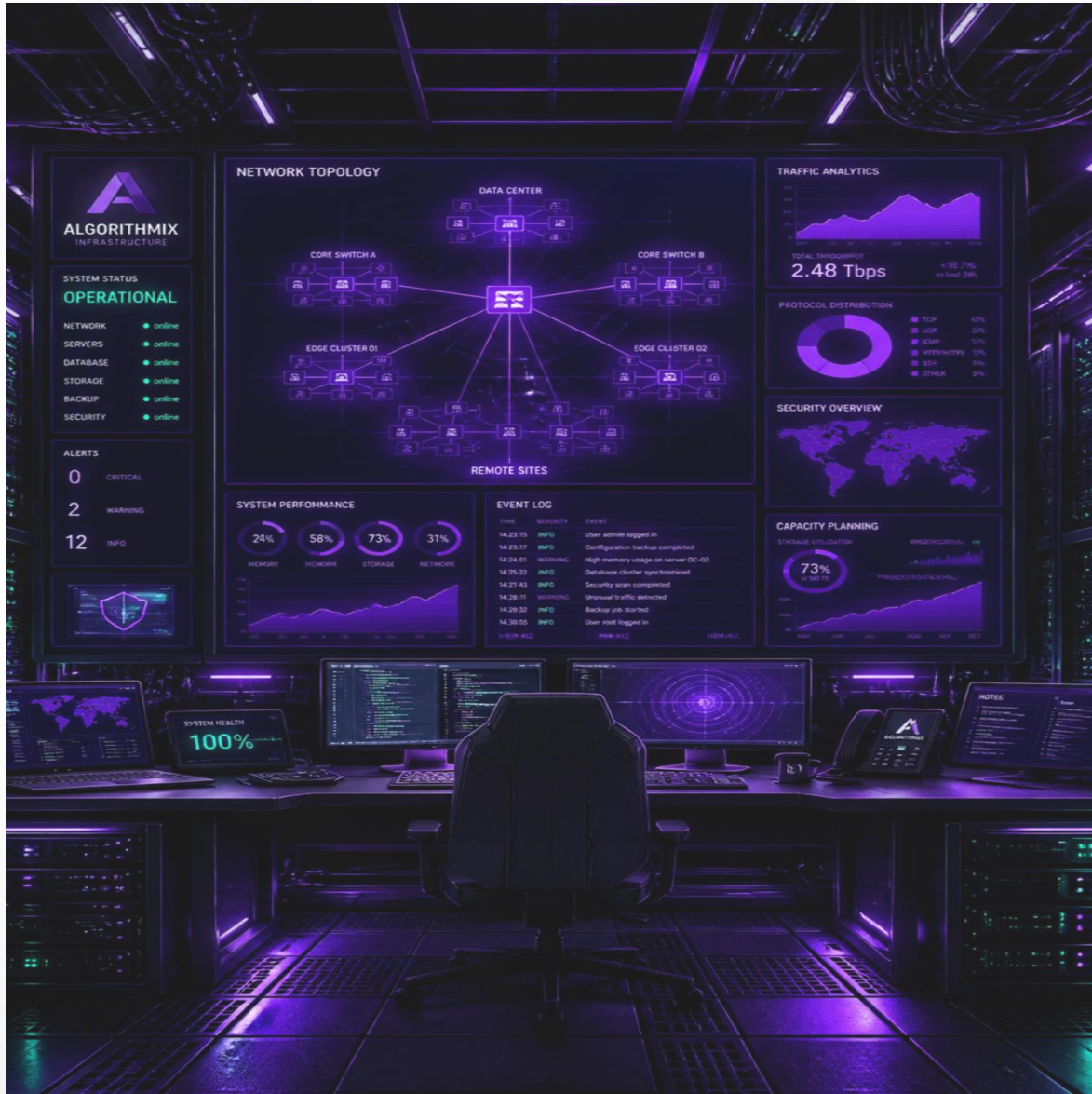
www.thezabbixbook.com

Soon available on Amazon



OpenSource ICT Solutions

Reinventing the Zabbix Frontend



Reinventing the Zabbix Frontend

Building a Custom UI from Scratch

Patrik Uytterhoeven – Opensource ICT Solutions



Opensource ICT Solutions

Why Start?

Zabbix is a great monitoring platform
We believed workflows could be improved
We wanted to experiment a bit with a modern UX
It all started as a focused side experiment



How it all started ...



First Idea: Let's start building a widget.

- The idea was to start small
- Create some interesting widgets
- Composable building blocks let us prove UX ideas without rewriting the whole UI



Step 2 ... The Idea Dashboard as a Widget

- The idea was to create a custom dashboard to be able to build something on react or vue
- Have more modern widgets, etc..

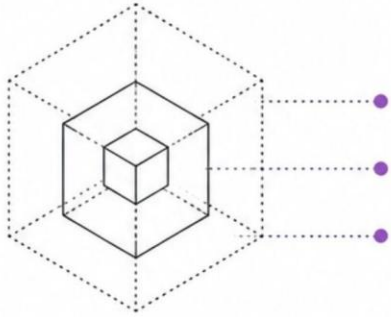


On paper: elegant

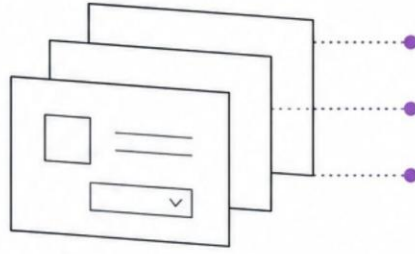
In practice... it got complicated fast.



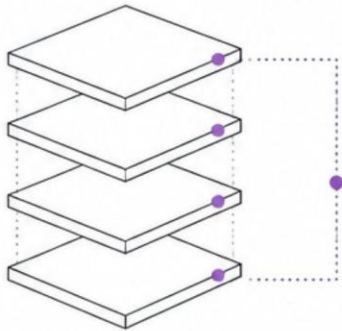
How It Started



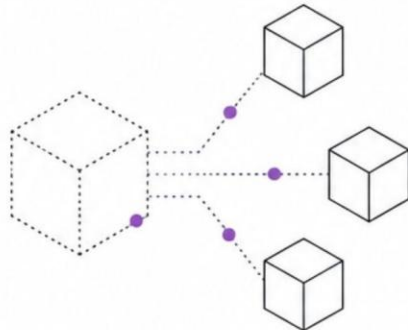
1) Nested state —
time range, refresh rate,
and host/item context
all conflict at depth



2) Editing UX —
nested editors become
confusing and hard to
reason about



3) Performance —
data-loading boundaries
multiply with each nesting
level



4) Tight coupling —
too dependent on the host
Zabbix dashboard model to
evolve independently

The lessons we learned ...

The wrong abstraction feels clever until it doesn't.

Nesting introduced conflicts, performance boundaries, and an editing model that was hard to reason about.



The solution



The Solution: A Full UI Beside Zabbix

Not a fork

We didn't replace or modify the official Zabbix UI.

Not a plugin

We didn't embed inside Zabbix's existing dashboard model.

Parallel deployment

Our app runs alongside Zabbix — same backend, new frontend surface.



OpenSource ICT Solutions

The Turning Point

"What if we rebuilt this?"

Zabbix is an industry-leading monitoring platform with rich workflows, and room to explore a more modern operator experience beside it.

From Side Project to Product

What started as a side experiment with modern UX principles evolved into a standalone workspace.

Designed for performance and day-to-day usability.



The idea ZBXfm-studio



PHP BFF

Backend-for-Frontend proxying securely to Zabbix 8.0 JSON-RPC.



Vue 3 + TypeScript

Modern reactive frontend with a full widget framework.



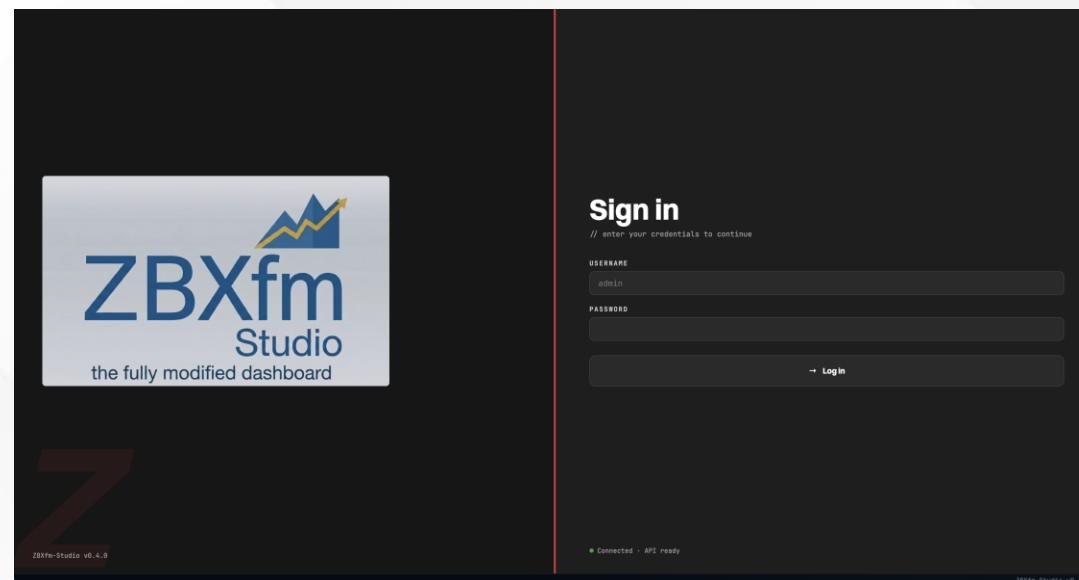
Widget Bus

Widgets listen and broadcast host/item context across the dashboard.



Monitoring Views

Hosts, latest data, problems, with keyboard-friendly filtering and i18n.



Technology stack

Vue 3 + TypeScript

Reactive UI and typed contracts for complex screens.

Vite

Fast feedback loop and modern production builds.

PHP BFF

Natural fit beside Zabbix stacks; sessions & proxy.

Vue Router + i18n

Deep links / bookmarks; English + Dutch.

Gridstack · MapLibre · Cytoscape

Boards, maps, topology without reinventing the basics.

Vitest + Playwright

Unit + e2e/a11y as the surface grows.



What we set out to build?

Composable dashboards

Widgets that share context and compose into real ops boards.

Operator-first surfaces

Inventory, problems, latest data — designed for scanning and action.

Full configuration flows

Editors that breathe — not squeezed into tiny dialogs.

Own reporting

Availability, top triggers, system info, local presets.

Side-by-side deploy

Classic UI stays; studio ships on its own cadence.

AI-assisted delivery

Use Cursor seriously — with rules and context discipline.



Strategic Development Goals

- 01 Vue 3** Large interactive workspace needs components and maintainable composition.
- 02 TypeScript** Zabbix APIs are numeric-heavy; types catch field / enum mistakes early.
- 03 PHP BFF** Deploy next to existing stacks without a second runtime culture.
- 04 Official docs** Zabbix 8.0 manuals are the source of truth for semantics.
- 05 Design tokens** One theme system instead of ad-hoc colors per screen.
- 06 Test tooling** Vitest + Playwright keep regressions in check while shipping fast.



Strategic Development Goals



Efficiency

Faster workflows and fewer clicks to access critical monitoring data.



UX Modernization

Implementation of intuitive navigation and contemporary visual design.



Compatibility

Remain fully compatible with Zabbix APIs while running next to the classic UI.



Evolution of ZBXfm (Zabbix Fully Modified)

The Spark



Initial custom widgets for specific client monitoring needs.

Experiment



Prototyping dynamic dashboard layouts and UX flows.

Standalone



Building a dedicated dashboard interface as widget.

The Platform



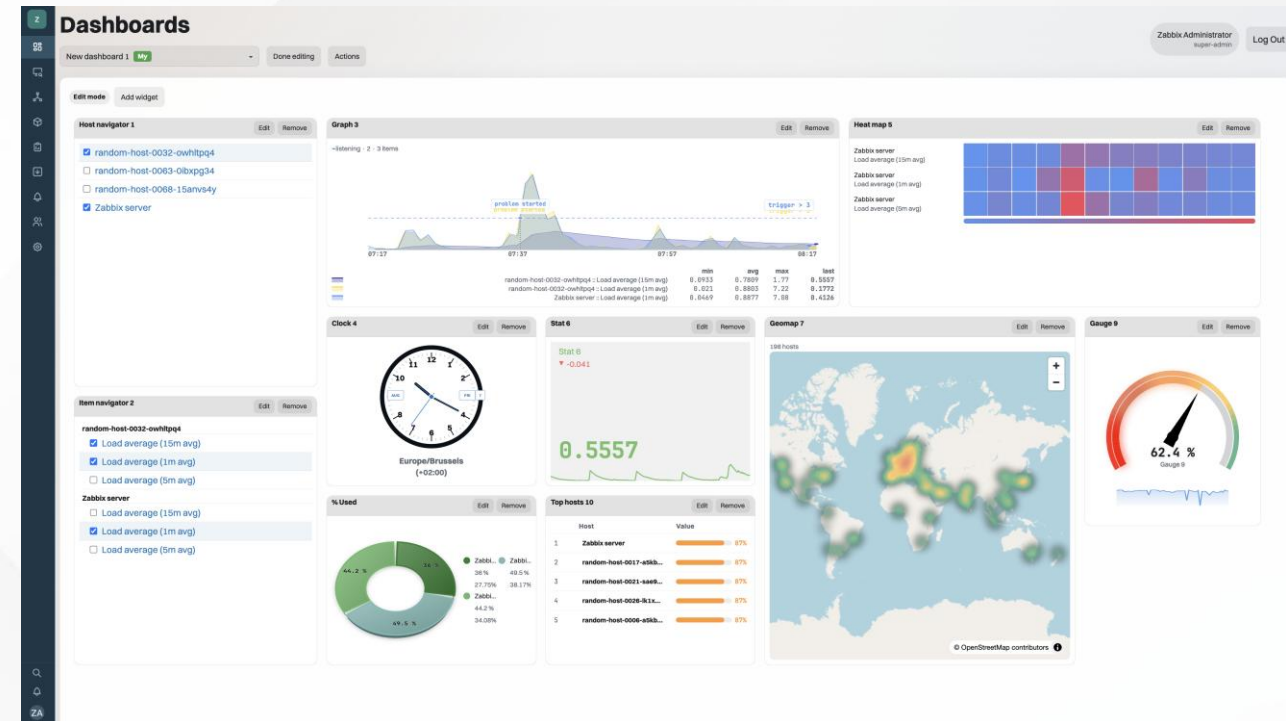
A full-scale frontend replacement compatible with Zabbix 8.0+.



Step 1 : We started with the widgets ...

Why this order worked

- ▶ Validate visuals against real Zabbix data
- ▶ Learn the API field-by-field
- ▶ Build a reusable editor + renderer pattern
- ▶ Low risk: value without a rewrite
- ▶ Natural path into a larger workspace



Fourteen widget kinds (and growing)

Manifest → editor → renderer — one framework for all

graph

Time series

gauge

Thresholds

stat

KPI tiles

piechart

Distribution

heatmap

Density

Tree map

Hierarchy

problems

Live issues

Top hosts

Rankings

Data overview

Tables

geomap

Geo context

clock

Timezones

timestate

State over time

Host navigator

Host browse

Item navigator

Item browse



From idea to product

Phase 1 : Prove UX

Custom widgets → standalone dashboard

- Experiment with modern monitoring views
- Validate layout, density, and widget ideas
- Low risk: no full Zabbix UI replacement yet

Phase 2 : Prove platform

Login + core monitoring via PHP BFF

- First vertical slice: problems, hosts, latest data
- Sessions and Zabbix credentials stay server-side
- REST tailored for the SPA not raw JSON-RPC in the browser

Phase 3 : Expand workspace

Same patterns, broader surface

- Configuration, reports, users, alerts, dashboards
- Entity drill-downs (host/template items, triggers, discovery)
- Role-aware navigation on every screen transition

“Today”

ZBXfm-studio runs **alongside** the classic Zabbix UI

Production-deployable for day-to-day monitoring and configuration

Parity gaps remain, we ship incrementally, not as a big-bang rewrite



From idea to product



What We Learned

1 Start small : widgets first

Composable blocks let you validate UX ideas before committing to a full surface.

2 Challenge bold ideas early

"Dashboard as widget" was a useful failure. Catch wrong abstractions before they scale.

3 AI accelerates, constraints decide

Use AI as a force multiplier for iteration, but let real product constraints drive architecture.

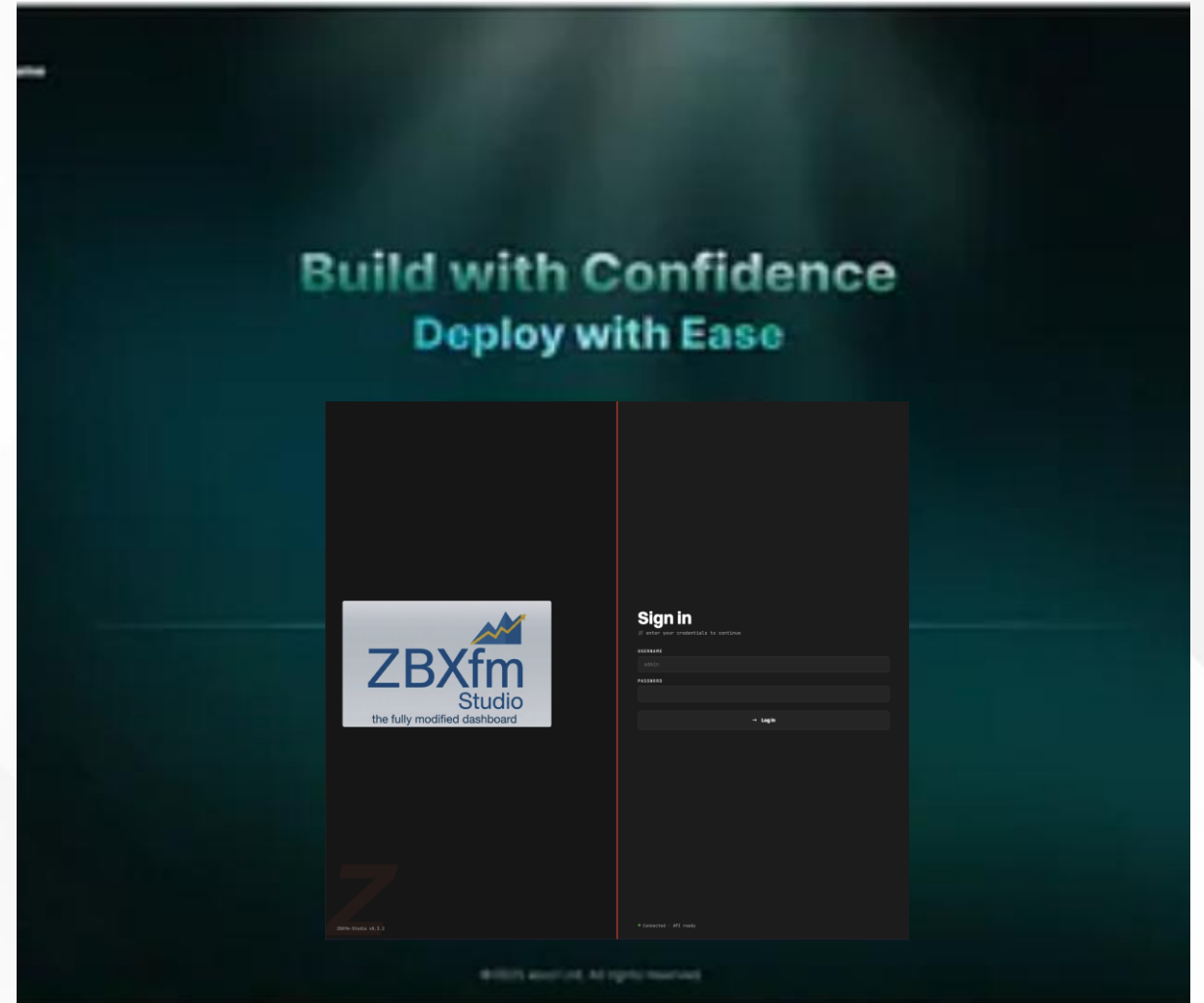


Security First Approach

Why a PHP BFF?

Security is paramount when exposing monitoring data. The Backend for Frontend (BFF) architecture provides critical layers of defense.

-  Server-side session management
-  No Zabbix tokens stored in the browser
-  Built-in CSRF & rate limiting protection
-  Strict security header implementation



Why a PHP BFF?

- Zabbix session / API credentials stay server-side in PHP sessions
- We support CSRF tokens, origin checks, login rate limiting, security headers
- REST endpoints tailored for the SPA (SinglePageApplication) above raw JSON-RPC (no full page reloads)
- Server-only capabilities: item.test via trapper (port 10051), aggregation
- Fits typical Zabbix deployments: nginx + php-fpm on the same host



How much code is there today?

~237k

lines of source

Vue · TS · PHP · CSS

~790

source files

excluding dependencies

14

widget kinds

framework + registry

17

Cursor rules

AI guardrails

Vue (.vue)

~105k lines · 327 files

TypeScript

~66k lines · 416 files

PHP BFF

~50k lines · 30 files



Building With AI

- We started with ChatGPT + Codex
- Later moved to Cursor
- Much of the implementation was AI-assisted
- Human-driven architecture and security decisions

OPEN SOURCE CODE



Full-page editors —> not modal-first

Our approach

- Host / template / user edits as pages
- Form Panel sections (general, interfaces...)
- Collapsible advanced blocks
- Live max length counters for Zabbix fields
- Shared primitives, one form language
- Modals only for small, focused tasks

Why it's better

- Complex forms stay readable
- Less stacked-dialog fatigue
- Better keyboard & scroll flow
- Easier to teach and document
- Matches how operators configure systems
- Room for validation & helpers



Technical challenges

Integrating with the Zabbix API

- The BFF normalises and simplifies Zabbix API responses, converting internal codes and values into frontend-friendly data structures
- Understanding the full permission model
- Keeping workflows consistent across the application
- Designing navigation that scales up to thousands of hosts
- Deciding what belongs in the frontend and what belongs in the backend
- Avoiding technical debt while moving quickly

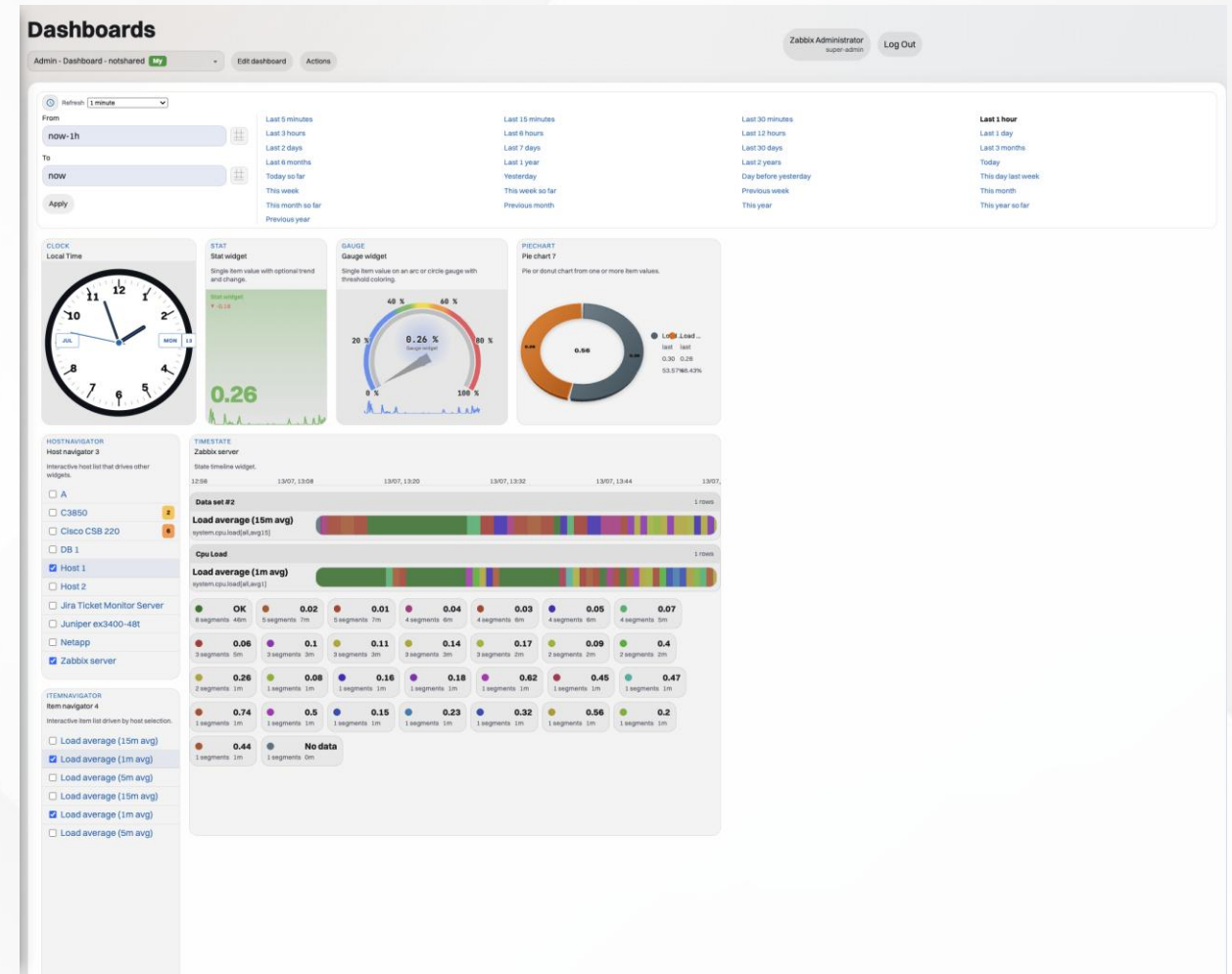


Dashboard Workspace

Real-time Visualization

The core of ZBXfm is its ability to present vast amounts of data without overwhelming the user.

- ✔ Customizable interface modules
- ✔ Near real-time state timeline widgets
- ✔ Optimized for high-density viewports
- ✔ Kiosk-mode ready for NOC displays



72 column grid with resizable rows from 48 to 144

Core Functional Modules

Monitoring - Problems

Advanced query bar with AND / OR / AND NOT and easy pills to choose from with suggestions.

Easy filter facets on the left

The screenshot displays the Zabbix Monitoring / Problems interface. On the left, there are filter facets for Host groups (including 'Discovered hosts' and several 'Random test group' entries) and Tags (including 'class', 'component', 'description', 'interface', 'scope', and 'target'). The main area features a 'Query bar' with a query: `hostgroup = "Linux Servers" AND status = "PROBLEM"`. Below the query bar, there are tabs for 'Recent problems', 'Problems', and 'History'. The 'Recent problems' tab is active, showing a table of problems. The table has columns for TIME, SEVERITY, RECOVERY TIME, STATUS, INFO, HOST, PROBLEM, DURATION, UPDATE, ACTIONS, and TAGS. The table lists several problems related to 'Network.Generic.Device.Interface.Sigabit-1000Mbps' with various severities (Warning, Problem) and durations. The interface also includes a 'Show' dropdown, a 'Query bar' with examples, and a 'Severity' filter with pills for 'Not classified', 'Information', 'Warning', 'Average', 'High', and 'Disaster'. There are also filters for 'Status' (Problem, Resolved, Acknowledgement) and 'Age less than' (7 days). The 'Apply' and 'Reset' buttons are at the bottom right of the filter section.

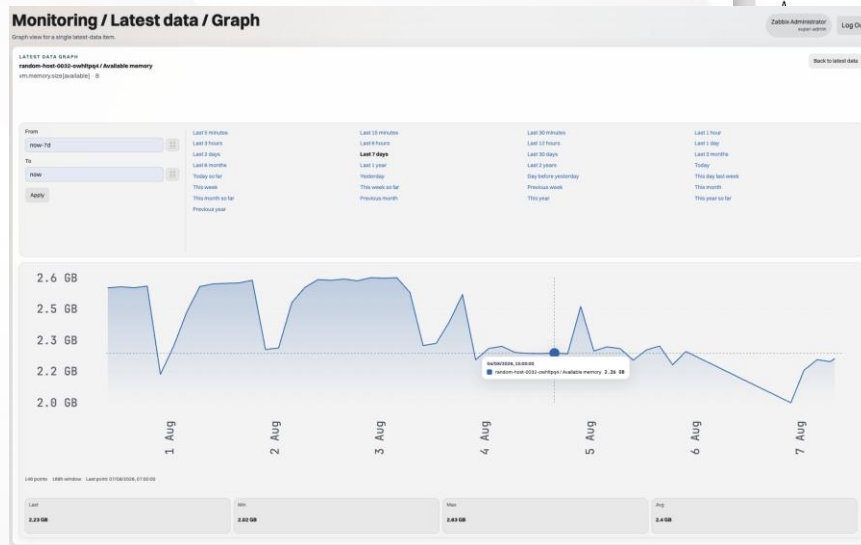
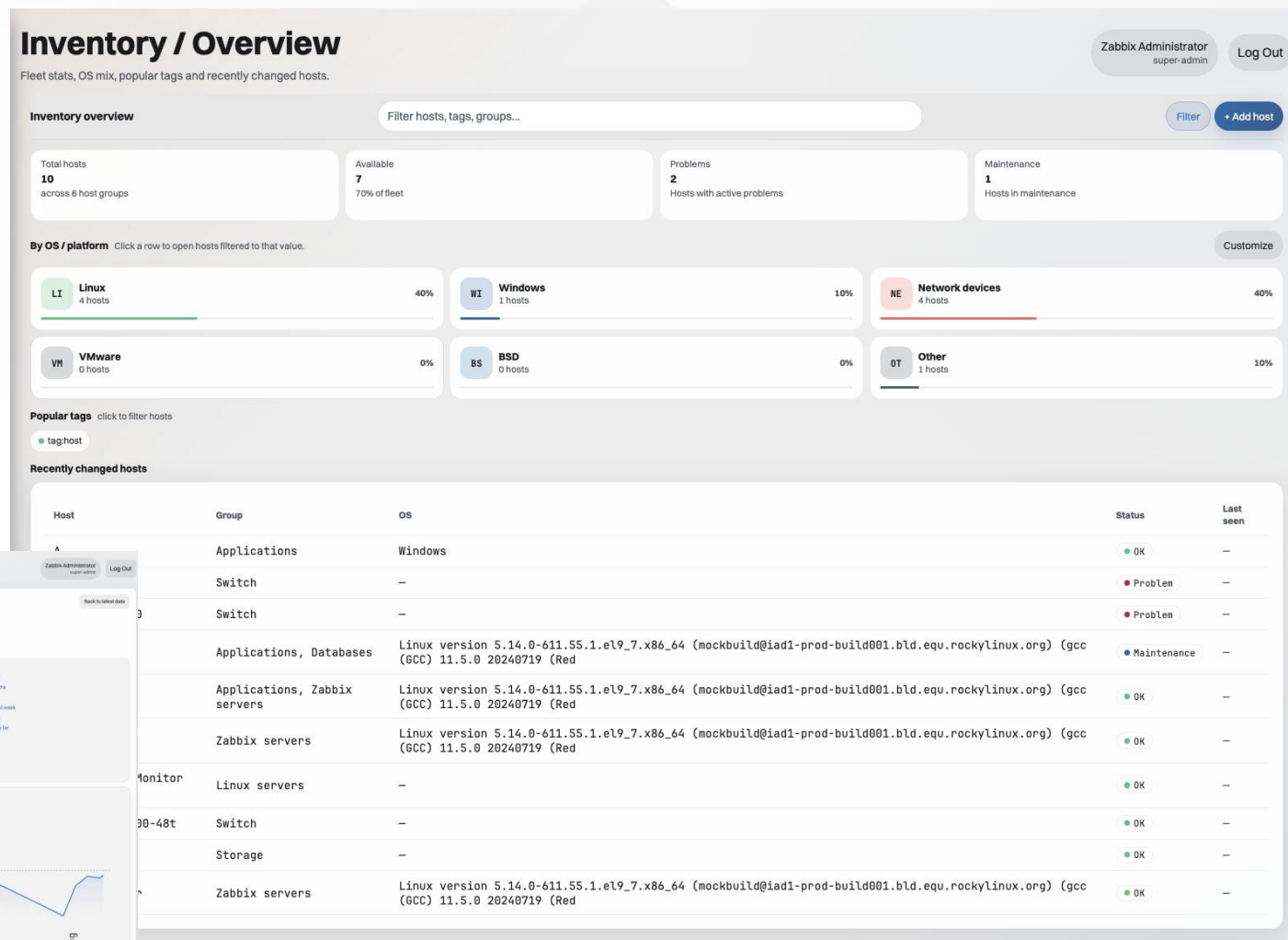
TIME	SEVERITY	RECOVERY TIME	STATUS	INFO	HOST	PROBLEM	DURATION	UPDATE	ACTIONS	TAGS
2026-08-03 17:05:26	Information	-	PROBLEM	-	Switch	Network.Generic.Device.Interface.Sigabit-1000Mbps Current reported speed: 10 Mbps	3d 17h 19m 38s	Update		scope:performance component:network
2026-07-27 23:13:53	Warning	-	PROBLEM	-	Switch	Network.Generic.Device.Interface.Sigabit-1000Mbps errors in: 33, errors out: 0	18d 11h 11m 11s	Update		scope:performance component:network
2026-07-27 23:13:19	Warning	-	PROBLEM	-	Switch	Network.Generic.Device.Interface.Sigabit-1000Mbps	18d 11h 11m 45s	Update		scope:performance component:network
2026-07-27 23:13:16	Warning	-	PROBLEM	-	Switch	Network.Generic.Device.Interface.Sigabit-1000Mbps	18d 11h 11m 48s	Update		scope:performance component:network



Core Functional Modules

Inventory - Overview

- Configurable filters by e.g. OS
- Quick overview of hosts in maintenance, with problems, or OK



Core Functional Modules

Inventory - Hosts

- Easy host display cards
 - Customizable cards
- Easy links to latest data, edit host, graphs

Host card fields

Choose which values appear on each host card (up to 8). Order is top-to-bottom, left column then right. Inventory keys match Zabbix host inventory fields returned for this list.

Primary IP	↑ ↓ ×
OS (summary)	↑ ↓ ×
Hardware	↑ ↓ ×
Location	↑ ↓ ×
Software application A	↑ ↓ ×
Serial number A	↑ ↓ ×

Add field

Select...

Reset to defaults Cancel Save

Inventory / Hosts

Search and filter hosts by inventory-oriented status and groups.

Hosts

Search hostname, IP, tag...

Status: OK Problem Warning Maintenance Disabled

Group: All groups Applications Databases Linux servers Storage Switch Zabbix servers

Showing 10 of 10 hosts - sorted by last change

A Applications

PRIMARY IP: 127.0.0.1

OS (SUMMARY): Windows

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

OK

C Cisco C3650 Switch

PRIMARY IP: 192.168.2.57

OS (SUMMARY): --

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

OK

C Cisco CSR 220 Switch

PRIMARY IP: 172.19.12.251

OS (SUMMARY): --

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

Problem

D DB 1 Applications, Databases

PRIMARY IP: 127.0.0.1

OS (SUMMARY): Linux version 5.14.0-611.55.1.el9_7.x86_64 (mockbuild@iad1-prod-build001.bld.edu.rockylinux.org) (gcc (GCC) 11.5.0 20240719 (Red

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

Maintenance

H Host 2 Zabbix servers

PRIMARY IP: 127.0.0.1

OS (SUMMARY): Linux version 5.14.0-611.55.1.el9_7.x86_64 (mockbuild@iad1-prod-build001.bld.edu.rockylinux.org) (gcc (GCC) 11.5.0 20240719 (Red

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

OK

J Juniper ex3400-48t

PRIMARY IP: 192.168.2.57

OS (SUMMARY): --

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

OK

Z Zabbix server Zabbix servers

PRIMARY IP: 127.0.0.1

OS (SUMMARY): Linux version 5.14.0-611.55.1.el9_7.x86_64 (mockbuild@iad1-prod-build001.bld.edu.rockylinux.org) (gcc (GCC) 11.5.0 20240719 (Red

HARDWARE: --

SOFTWARE APPLICATION A: --

SERIAL NUMBER A: --

OK



Reports – Local reports

- PDF export without a local Chrome/Chromium install
- Easy selectable predefined reports

Reports / Local reports

Preset-based operational reports with export and dashboard pinning.

Zabbix Administrator
super-admin

Log Out

1 Choose report

2 Select scope

3 Select period

4 Run and export

Choose report

Step 1 of 4

Top hosts by downtime
Availability-focused downtime report based on host-related problem history.

Top hosts by CPU usage
Rank hosts by average, maximum or peak CPU usage.

Top hosts by memory usage
Rank hosts by average, peak or sustained memory usage.

Top hosts by disk usage
Rank hosts by disk usage over the selected time window.

Top triggers by problem duration
Measure which triggers spent the most time in problem state.

Metric

Downtime duration

Aggregation

Sum

Group by

Host

Top N

10

Status

Ready now

Load preset

Reuse a saved local configuration

Export presets

Import presets

No local presets yet. Save one after running a report.

Back

Next

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Core Functional Modules

Reports – Local reports

- Reports can be saved
- Exported to pdf or csv

Reports / Local reports

Preset-based operational reports with export and dashboard pinning.

Zabbix Administrator
super-admin

Log Out

1 Choose report

2 Select scope

3 Select period

4 Run and export

Run and export

Step 4 of 4

Report type
Top hosts by downtime

Window
16/06/2026, 16:23:24 - 23/06/2026, 16:23:24

Scope
Top 10, 0 groups selected, 0 hosts selected

Host groups
All host groups

Hosts
All hosts

Downtime criteria

Unavailable agent-related host problems

Unreachable host incidents tied to availability

Repeated host availability events grouped per host

Problem history inside the selected time range

This report ranks hosts by downtime duration and incident count for the chosen scope and time window.

Save local preset

Export CSV

Export PDF

Back

Run report

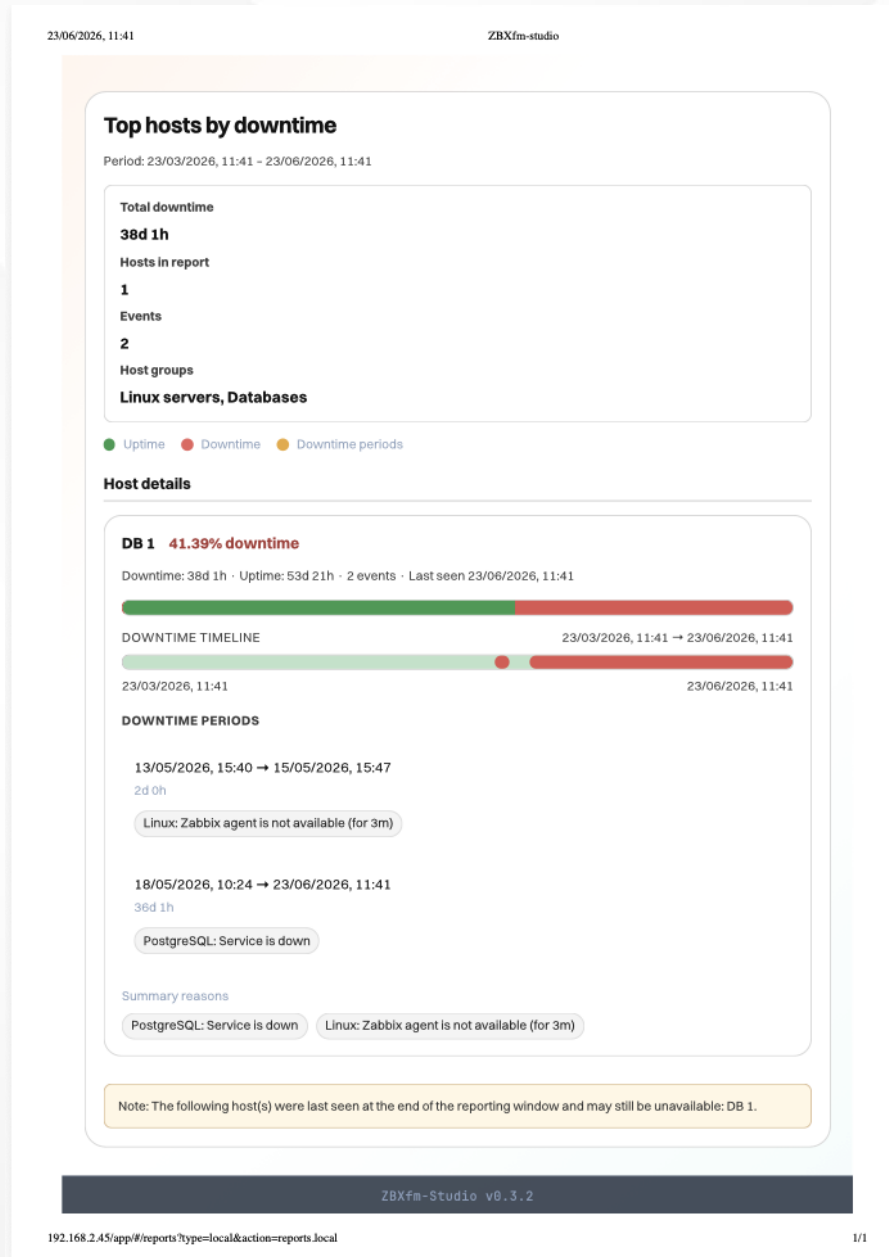
Results

Choose a range and run the report.



Core Functional Modules

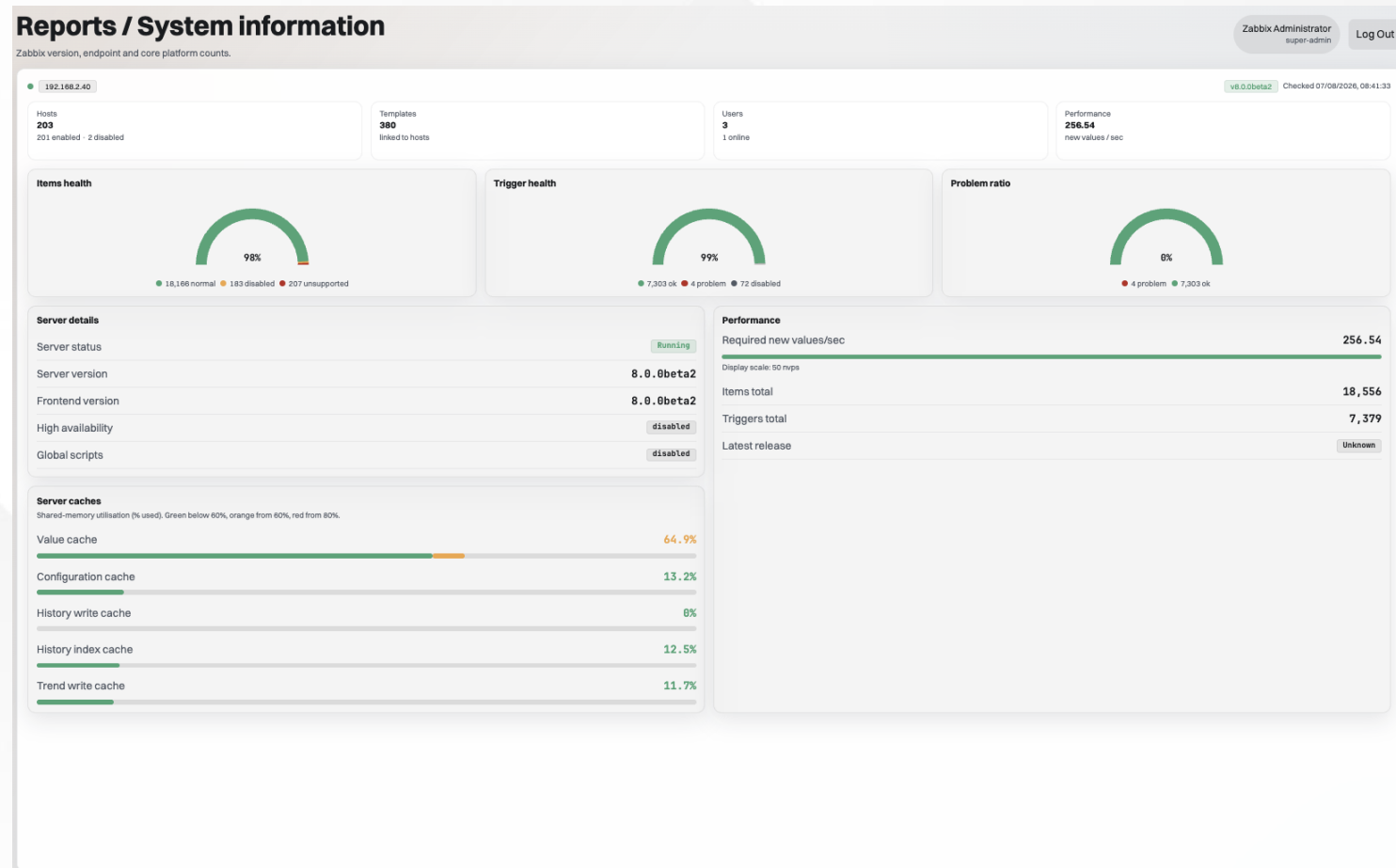
- Summary of the reasons for downtime
- Clear overview of the downtime periods
- SLA % calculated in the report for management
- Warning for hosts that are still unavailable



Core Functional Modules

Reports – System information

- Easy health overview for items and triggers



Core Functional Modules

Reports – Action debug

- A new module that reports why an action was not working.
 - Maintenance
 - Wrong severity
 - Access permissions
 - Wrong user media
 - SMTP server bad config
 - ...

Reports / Actions debug
Escalation debugger for alert routing and delivery status.

Zabbix Administrator super-admin Log Out

Problem
Switch — Network Generic Device: Interface GigabitEthernet12(Laptop Rick): Ethernet has changed to lower speed than it was before (INFORMATION)

Live status Why not? History

Information Switch — Network Generic Device: Interface GigabitEthernet12(Laptop Rick): Ethernet has changed to lower speed than it was before
Information · Started 03/08/2026, 15:05:26 · Duration 3d 17h

Escalation step
1

Time to next step
—

Sent
0

Acks
0

User media configured
No media configured for recipient users

CONDITION CHECKLIST

✓ Action enabled	Enabled
✓ Severity threshold	No severity filter configured
⚠ Time period valid	No time period filter configured
✓ Maintenance window	No active maintenance
✓ Host access	Host Switch is visible to the current user
✓ Media types enabled	Available media types can deliver
✗ User media configured	No media configured for recipient users
✗ Delivery errors	Delivery failed: recipients have no media configured

CONDITIONS EVALUATION

15:05:26
Trigger evaluated
Network Generic Device: Interface GigabitEthernet12(Laptop Rick): Ethernet has changed to lower speed than it was before fired on Switch

15:05:26
Action matched
Action "Report problems to Zabbix administrators" matches the current event

15:05:26
Host access
Host Switch is visible to the current user

15:05:26
Recipient lookup
3 users and 40 media types loaded

15:05:26
Delivery failed
No media defined for user.
[Show details](#)



Core Functional Modules

Data collection - Hosts

- Live data view for
 - LLD
- Json hints

Edit discovery rule

Full rule is loaded from Zabbix where available. Preview uses pasted or fetched JSON; save sends changes via discoveryrule.update.

1. Rule & raw LLD data

2. Preprocessing

3. LLD macros

4. LLD filters

5. Lost resources (effect)

6. Overrides

7. Item prototypes

8. Final result

Host: Zabbix server

2 raw row(s) → 2 after macros → 2 passed / 0 filtered out

Rule name

Block devices discovery

Discovery key

vfs.dev.discovery

Type

Zabbix agent

Update interval

1h

Host interface

Agent - 127.0.0.1:10050

Status

Enabled

Delete lost resources

After threshold

Delete after (threshold mode only)

7d

Disable lost resources

Disable immediately

Disable after (threshold mode only)

0

Description

Fetch live data

Execute now

Raw JSON (paste or from live fetch)

```
[
  { "name": "/dev/sda", "major": 8, "minor": 0, "size": 476 },
  { "name": "/dev/loop0", "major": 7, "minor": 0, "size": 0 }
]
```

Discovery preview

- Key: vfs.dev.discovery
- Interval: 1h
- Raw rows: 2

```
{ "name": "/dev/sda", "major": 8, "minor": 0, "size": 476 }
```

Cancel

Back

Next



Core Functional Modules

Data collection - Hosts

- Live data view for
 - Preprocessing

Edit discovery rule

Full rule is loaded from Zabbix where available. Preview uses pasted or fetched JSON; save sends changes via discoveryrule.update.

1. Rule & raw LLD data

2. Preprocessing

3. LLD macros

4. LLD filters

5. Lost resources (effect)

6. Overrides

7. Item prototypes

8. Final result

Host: Zabbix server

2 raw row(s) → 2 after macros → 2 passed / 0 filtered out

Preprocessing runs on the discovery item value before macro extraction (Zabbix 8.0). Preview supports JSONPath and simple Replace only. Since Zabbix 4.2, LLD output is often a JSON array at the root; use \$[*] for that. Legacy \$.data[*] still works when the payload uses a data wrapper — the preview applies the same fallbacks as Zabbix for common cases.

TYPE	PARAMETERS	ERROR HANDLER	HANDLER PARAMS
JSONPath	\$[*]	Zabbix server error message	<button>Remove</button>

+ Preprocessing step

After preprocessing

2 row(s)

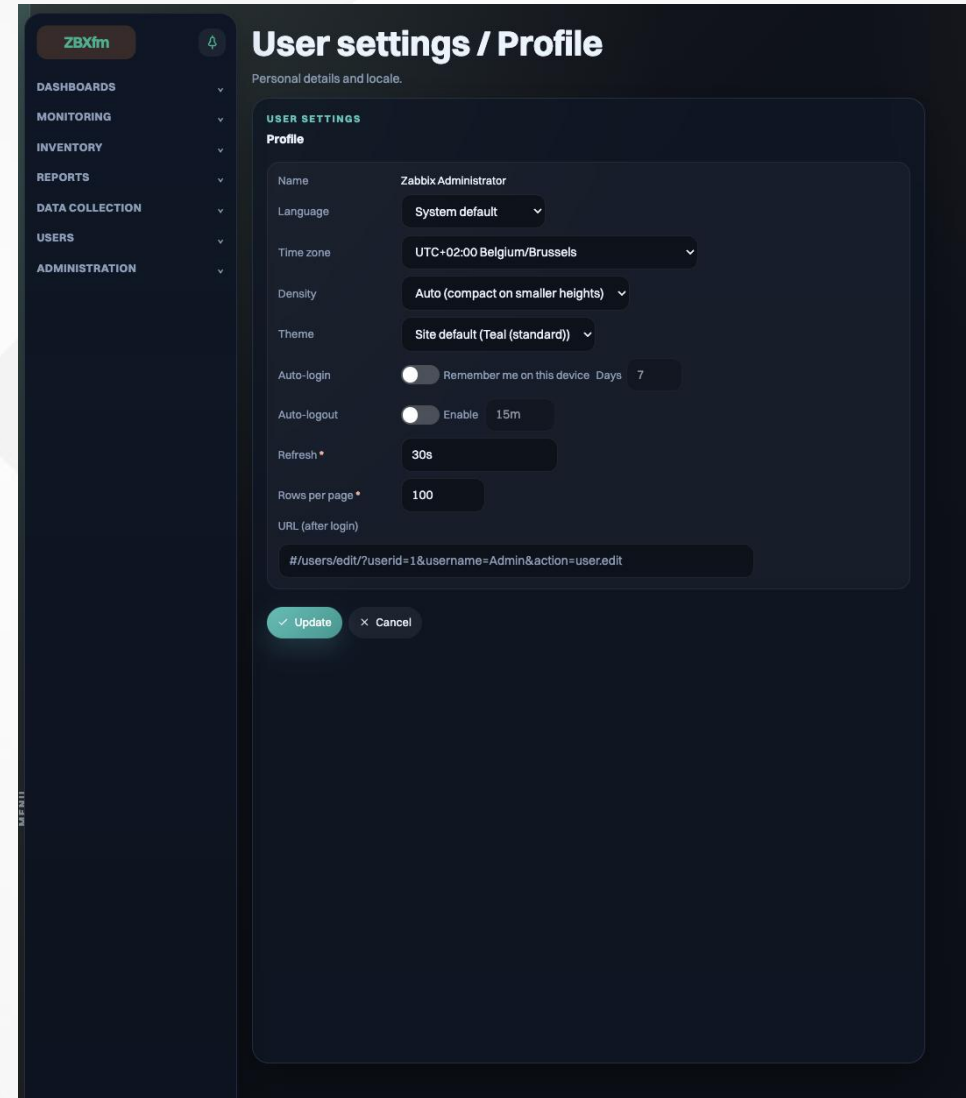
```
[
  {
    "name": "/dev/sda",
    "major": 8,
    "minor": 0,
    "size": 476
  },
  {
    "name": "/dev/loop0",
    "major": 7,
    "minor": 0,
    "size": 0
  }
]
```

Cancel Back Next



User Profile

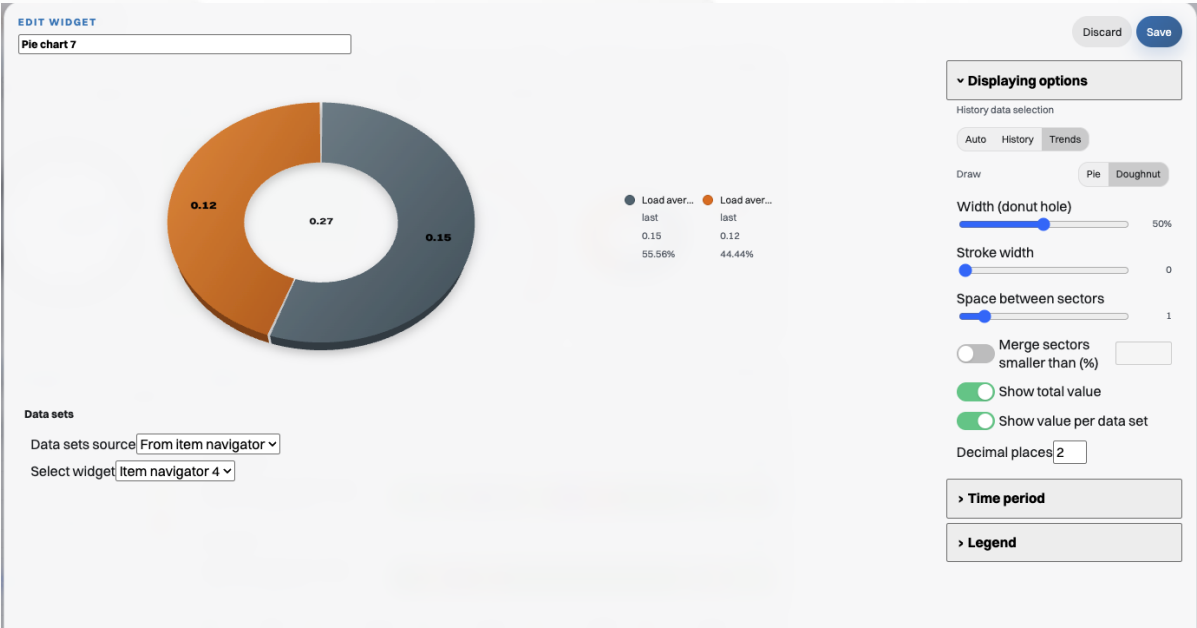
- Support for themes
- Support for widescreen layouts
- Different themes:
 - Teal light
 - Teal dark
 - Blue dark



The screenshot displays the 'User settings / Profile' interface in the Zabbix web application. On the left, a dark sidebar contains a menu with options: DASHBOARDS, MONITORING, INVENTORY, REPORTS, DATA COLLECTION, USERS, and ADMINISTRATION. The main content area is titled 'User settings / Profile' and includes a subtitle 'Personal details and locale.' Below this, a 'USER SETTINGS' section is visible, with a 'Profile' tab selected. The profile settings include: Name (Zabbix Administrator), Language (System default), Time zone (UTC+02:00 Belgium/Brussels), Density (Auto (compact on smaller heights)), Theme (Site default (Teal (standard))), Auto-login (disabled), Auto-logout (disabled, 15m), Refresh (30s), and Rows per page (100). At the bottom, there is a URL field containing '#/users/edit/?userid=1&username=Admin&action=user.edit' and two buttons: 'Update' and 'Cancel'.



Unified edit forms for widgets



Other improvements

High flexible unified filters

Combine AND / OR / AND NOT

Filters (facets)  [Reset all](#)

Browse > All host groups

▼ **Host groups**

- ☐ Applications
- ☐ Databases
- ☐ Discovered hosts
- ☐ Hypervisors
- ☐ Linux servers
- ☐ Random test group 1m918w-001
- ☐ Random test group 1m918w-002

▼ **Hosts**

Select a host group to browse hosts.

- > **Host tags**
- > **Template tags**
- > **Templates**
- > **Proxy / Proxy group**
- > **Monitoring state**
- > **Interface type**
- > **MONITORING**

 [Show](#) [Recent problems](#) [Problems](#) [History](#)

Query bar Power users

hostgroup = "Linux servers" AND host = "Jira Ticket Monitor Server" AND status = "Resolved"

Use the operator chips or type AND, OR, or AND NOT between clauses. Fields: hostgroup, host, trigger, tag, status, problem. Use the severity pills below for severity.

[AND](#) [OR](#) [AND NOT](#)

[+ Add filter](#)

HG Hostgroup **H Host** **T Trigger**

TG Tag **ST Status** **AK Acknowledgement**

Host groups

[Select](#)

Tip: press Enter in Add filter to apply and refresh the list.

Severity

[Not classified](#) [Information](#) [Warning](#) [Average](#) [High](#) [Disaster](#)

Age less than

days ☐ Show symptoms ☐ Show suppressed problems



Other improvements

Lazy page loading

- Max lines filter per user but no hard limit.
- Pages are already loading the next 100 items before you have hit the bottom
- A small red / green dot in latest data before the host so we see if the item works or not

☐ Host 2	Free swap space in % system.swap.size[,pfree]	1m	31d	365d	Zabbix agent	13/07/2026, 15:30:26	100.0 %	—
☐ Host 2	FS [/]: Get data vfs.fs.dependent[/,data]	0	1h	0	Dependent item	13/07/2026, 15:30:00	{ "fsname": "/", "options": "rw, seclabel,relat ime,attr2,inod e64,logbufs=8, logbsize=32k,n oquota", "bytes ": { "used": 625183 5392, "free": 80 63324160, "tota l": 14315159552 , "pused": 43.67 2830674992674, "pfree": 56.327 169325007326}, "fstype": "xfs" , "inodes": { "used": 77888, "free": 6944704 , "total": 70225 92, "pused": 1.1 09106153397492 , "pfree": 98.89 0893846602509} }	—
☐ Host 2	FS [/]: Inodes: Free, in % vfs.fs.dependent.inode[/,pfree]	0	31d	365d	Dependent item	13/07/2026, 15:30:00	98.9 %	—

Showing 100 of 231 items

Load next 100 rows



Other improvements

Easy host permission overview

- Usergroups will have an easy overview of what rights they have on what host groups and sub groups.
- Easy to follow the parent group or propagate changes to sub groups

General **Host permissions** Template permissions Tag filters

Host permissions

Propagate to subgroups + Add

Explicit (this group)

Subgroup (follows parent)

Subgroup (overridden)

RW / R / Deny set access for the selected group. Subgroup rows use the same buttons; a dashed outline means it still follows the parent until you pick a different level. Use Follow parent on a subgroup or Clear subgroup overrides on a folder row to drop explicit subgroup rows.

Group	Subgroups	Permission	Action
▼ Applications	☒ Include	RW R Deny	Clear subgroup overrides ×
Applications/test	—	• RW R Deny	Follow parent
▼ Databases	☒ Include	RW R Deny	×
▼ Linux servers	☒ Include	RW R Deny	×
▼ Switch	☒ Include	RW R Deny	×



Other improvements

Host / Item navigator with support for multiple selections

- Host and item navigator have the option to select multiple host / items.
- This allows us to use widgets with more than 1 data stream.

> Display

▼ Options

Selection mode Multiple ▼

☒ Auto-select first entry

HOSTNAVIGATOR

Edit Remove

Host navigator 3

Interactive host list that drives other widgets.

☐ A

☐ C3850 2

☐ Cisco CSB 220 6

☐ DB 1

☒ Host 1

☐ Host 2

☐ Jira Ticket Monitor Server

☐ Juniper ex3400-48t

☐ Netapp

☒ Zabbix server

ITEMNAVIGATOR

Edit Remove

Item navigator 4

Interactive item list driven by host selection.

☐ Load average (15m avg)

☒ Load average (1m avg)

☐ Load average (5m avg)

☐ Load average (15m avg)

☒ Load average (1m avg)

☐ Load average (5m avg)



Other improvements

Color tags

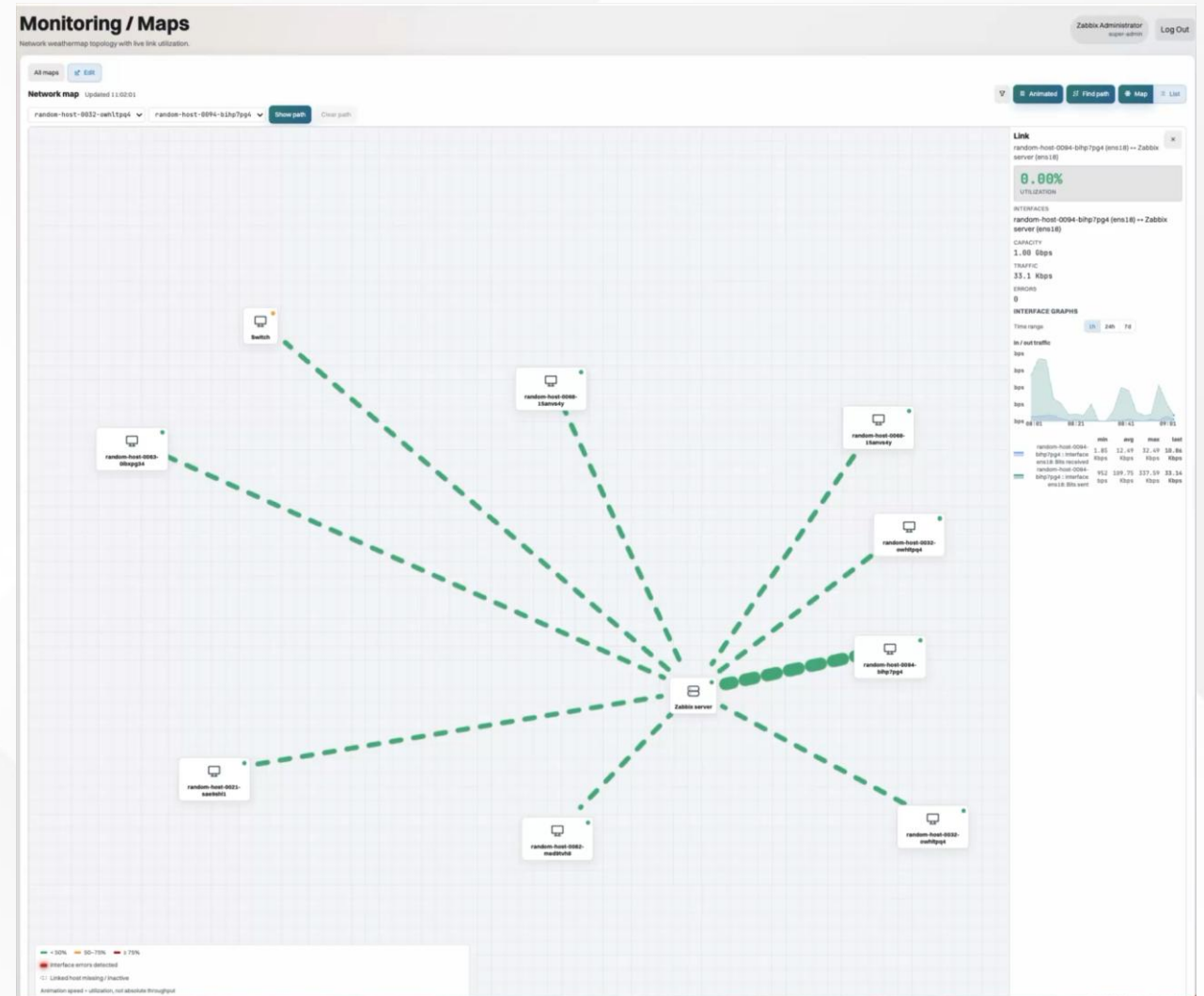
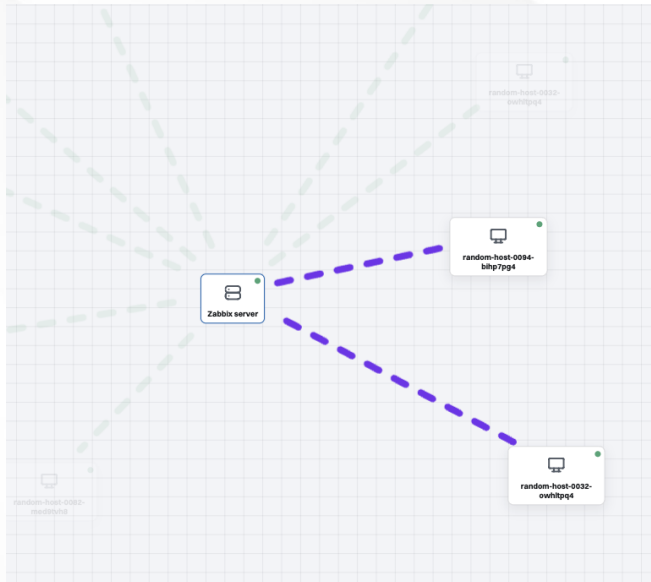
- Host, item, trigger and template tags all come with their own color
- Easy to see where the tag comes from



Other improvements

Maps

- SVG Maps + icons
- Weathermap
- Path tracing
- Animated data flow



Trigger actions

- Steps on a timeline
- Conflict detection
- Summary of the config
- Animated data flow

Alerts / Trigger actions

Zabbix Administrator
super-admin

Log Out

Actions executed when trigger events occur.

← Back to list

WizardExpertCancelSave

Edit trigger action: severity equal or higher then

General

Name

Name *

severity equal or higher then

29 / 255

Enabled

Pause operations for symptom problems

Pause operations for suppressed problems

Notify when escalation is canceled

Default operation step duration

Default operation step duration

15m

At least 60 seconds. Examples: 60, 1m, 1h.

3 / 255

Conditions

And/OrAndOrCustom

A

Trigger severity

is greater than or equals

Warning

Add condition

Operations

Step 1

1

+15m

Step 2

1

+15m

Step 3

0

Add step

Step 3-3

Add operation

Remove step

Conflicts

Overlapping action

Same conditions as enabled action "Report when severity higher then warning".

Summary

Conditions

1

Steps

3

Total duration

2 × 15m

Recovery operations

1

Alerts / Trigger actions

Zabbix Administrator
super-admin

Log Out

Actions executed when trigger events occur.

Trigger actions

3 actions, 0 disabled

Search by name

AllEnabledDisabled

NAME

STATUS

CONDITIONS

OPERATIONS

Report problems to Zabbix administrators

Enabled

No conditions

Send message

0 user(s), 1 group(s)

Report when severity higher then warning

Enabled

Trigger severity ≥ Warning

Send message

0 user(s), 1 group(s)

Send message

1 user(s), 0 group(s)

severity equal or higher then

Enabled

Trigger severity ≥ Warning

Send message

0 user(s), 1 group(s)

Send message

1 user(s), 0 group(s)



Announcements

- Announcements on top
- Info / Warning / Critical

Administration / Announcements

Zabbix Administrator
super-admin

Log Out

Site-wide banner message for logged-in users.

Announcements

Post a site-wide banner for logged-in users. Only one banner can be active at a time.

New announcement

Edit announcement

Message *

Info test announcement

22/4000

Severity

Info Warning Critical

Active

Start date

YYYY-MM-DD

Optional. Outside this window the banner is hidden even when active.

End date

2026-08-03

User groups

User groups

Zabbix administrators Search user groups...

Select

Empty groups and users = visible to everyone. Otherwise a user matches if they are in a selected group or listed individually.

Users

Users

Search users...

Select

Update Cancel

All announcements

Status	Message	Schedule	Targets	Actions
Expired	Info test announcement	Until 2026-08-03	1 groups, 0 users	Edit Deactivate



Other improvements

Maintenance

- Easy timeline overview

Z

☰

📅

🔍

🏠

📧

📅

🔔

⚙️

Data collection / Maintenance

Schedule maintenance windows, hosts and recurring time periods.

1Active

0Planned

0Expired

1Total

Sort 1

All

Active

Planned

Expired

Summit Maintenance

Applications - 1 host

18/08/2026, 15:53

Active

Zabbix Administrator
super-admin

Log Out

Summit Maintenance

Active

With data collection

+ New maintenance

Edit

Delete

Overview

Time periods

Hosts & host groups

Tags

Active window: 18/08/2026, 15:53:00 → 31/08/2026, 16:53:00

Progress

FIRST TIME PERIOD

One-time 2026-08-18T15:54 → 2026-08-19T15:54

Administration / Announcements

Site-wide banner message for logged-in users.

Zabbix Administrator
super-admin

Log Out

Announcements

Post a site-wide banner for logged-in users. Only one banner can be active at a time.

Edit announcement

Message *

Info test announcement

22/4688

Severity

Info

Warning

Critical

Active

Start date

YYYY-MM-DD

Optional. Outside this window the banner is hidden even when active.

End date

2026-08-03

User groups

User groups

Zabbix administrators

Search user groups...

Select

Empty groups and users = visible to everyone. Otherwise a user matches if they are in a selected group or listed individually.

Users

Users

Search users...

Select

Update

Cancel

All announcements

Status	Message	Schedule	Targets	Actions
Expired	Info test announcement	Until 2026-08-03	1 groups, 0 users	Edit Deactivate

 Opensource ICT Solutions

Lessons in AI-Driven Development

- ⚙️ **Efficiency:** Much of the Vue implementation was AI-assisted using Codex and Cursor.
- 👤 **Human:** AI speeds up implementation, but architecture and security decisions remain human-driven.
- 💡 **The Reality:** Building individual screens is easy; building a coherent, consistent product with AI is hard.
- 🔑 **Complexity:** Permissions and navigation consistency are the most challenging aspects of a frontend rebuild.



Context hygiene for AI-assisted development

Make Smart use of :

- **.gitignore** : keep secrets (and junk) out of Git
- **.cursorignore** : keep secrets (and noise) out of the AI context
- **.cursorindexingignore** : skip irrelevant paths in the index (faster / cheaper)
- **.cursor/** : project rules so the AI follows your conventions
- **Make use of manual mention @** : Point AI to the correct files and save tokens



Performance & scalability

What we did

- Pagination and explicit limits on list endpoints
- BFF aggregation to reduce browser round-trips
- Lazy-loaded workspace sections (async components)
- Client-side table sort where datasets are page-scoped
- Streaming/export guidelines for large CSV workloads

What to watch for in the future

- Zabbix API remains the bottleneck — not the SPA (Single Page Application) +- (1-2s penalty)
- Multi-node BFF needs shared storage for rate limits / settings
- Heavy graphs and dashboards still depend on upstream query cost
- Role capability checks on every navigation transition
- Ongoing work: payload hygiene on largest tables
- Addition of a small db in the future for settings
- Extra features more and better widgets



Thank you

Any questions?

Feel free to ask me for a demo!

